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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/987,964 | 11/16/2001 | Satoshi Nakao | 107156-00084 | 7918 |

7590 07/11/2005

ARENT FOX KINTNER PLOTKIN & KAHN, PLLC
Suite 600
1050 Connecticut Avenue, N.W.
Washington, DC 20036-5339

EXAMINER

AGHDAM, FRESHTEH N

ART UNIT PAPER NUMBER

2631

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/987,964 | NAKAO ET AL. | |
| | Examiner | Art Unit | |
| | Freshteh N. Aghdam | 2631 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 05/02/2005 have been fully considered but they are not persuasive. In the previous action examiner did not consider the dependent claims 8 and 9, which were added in the preliminary amendment filed on November 16, 2001 and it is considered in this action.

Applicant's Response: In page 5, paragraph 4, applicant argues, Schumutz does not teach or suggest, "the amplitude value of the gain adjustment is not based on the actual signal receiving condition but is based on the receiving condition of the signal in at least one earlier frame. Consequently, Schmutz does not determine an actual signal receiving condition in accordance with a change in the signal level detected by the detector and setting gain control conditions of the automatic gain controller in accordance with a result of determination of an actual signal receiving condition."

Examiner's Response: In page 21, lines 22-24 of the specification, applicant defines the actual receiving condition as "a difference between an average value of levels previously detected by the signal level detector 21 and a newly detected result." This limitation was claimed in the dependent claim 5 in which was considered by the examiner in the previous action. Schmutz teaches this limitation in page 4, paragraph 31, column 2, and lines 3-18.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, and further in view of Schmutz et al (US 2001/0048727).

As to claim 4, the admitted prior art teaches the signal level detector 9, which detects the level change of an OFDM signal and an automatic gain controller in order to adjust the level of the OFDM signal responsive to the signal level detected by the detector (Fig. 8; Pg. 2, Lines 25-27; Pg. 3, Line 1). The admitted prior art does not teach a controller for determining an actual signal receiving condition in accordance with the result of actual receiving signal determination. Schmutz et al, in the same field of endeavor, teaches a controller that determine the actual signal receiving condition in accordance with a change in the signal level detected and for setting gain control conditions of the automatic gain controller in accordance with a result of determination of an actual signal receiving condition (Fig. 4; Pg. 4, Par. 31). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Schmutz et al with the admitted prior art in order to appropriately adjust the gain factors (Pg. 4, Par. 31).

As to claim 5, Schmutz et al teach a controller (i.e. a method of gain adjustment factors) in which the controller averages amplitudes of the at least one previously

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received signal arriving during the at least one earlier frame and then an appropriate gain adjustment factor is determined (Fig. 4; Pg. 4, Par. 31). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Schmutz et al with the admitted prior art in order to determine the gain adjustment factor in variety of ways (Pg. 4, Par. 31).

As to claim 6, Schmutz et al disclose a gain adjustment factor method by determining the actual received signal condition in each predetermined period (Fig. 4; Pg. 4, Par. 31). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Schmutz et al with the admitted prior art in order to appropriately adjust the gain factors exclusively to the currently received signals (Pg. 4, Par. 31).

As to claims 7-9, one of ordinary skill in the art would clearly recognize that the controller detects at least one of gain control period, level detection period, level control range for gain control and gain control amount (Schmutz teaches controlling the gain by some amount determined by the gain factor in abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam

July 6, 2005


KEVIN BURD
PRIMARY EXAMINER